

NEWSLINE

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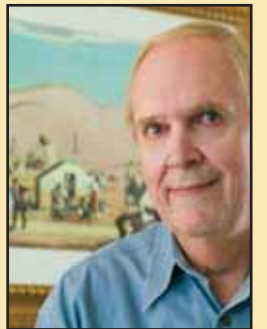
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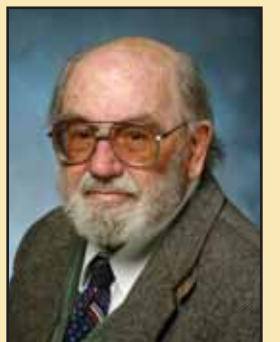
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LAB NEWS

Livermore, Los Alamos join forces at Nevada Test Site

By Jason Carpenter
N Program

It's official: there is a new way of doing business at the Nevada Test Site (NTS).

By forming the Joint NTS Program Office (JNPO), the Laboratory and Los Alamos National Laboratory (LANL) have agreed to align their programmatic work at NTS under one joint organization. A Memorandum of Understanding (MOU) signed in late July sealed the deal.

Says Robert Braddy, the inaugural Joint NTS Program Leader: "It is increasingly important that the nuclear weapons complex identify and capitalize on opportunities to increase efficiency and reduce costs to the Nuclear Weapons Program."

Braddy became a LANL employee on July 1 after four years leading and managing the Stockpile Stewardship Program for former NTS management and operating (M&O) contractor Bechtel Nevada. His principal responsibility as Joint NTS Program leader is to work with both nuclear design laboratories to understand and execute the joint program. To be the champion for the shared program work itself, his officially objective overview balances the labs' roles according to what is best for the shared program.

In addition, Braddy's role includes management of funds and matrixed staff from both laboratories. He also represents both labs as the senior resident point of contact for the new NTS M&O Contractor (NSTec) and the National Nuclear Security Administration's (NNSA's) Nevada Site Office (NSO).

The MOU, signed on July 24, 2006, by the directors of both LANL and LLNL, captures the details of the agreement between the two nuclear design labs. Referring to the JNPO as the Joint NTS Nuclear



COURTESY OF JNPO

The Management team of the newly established Joint NTS Program Office: Deputy Program Leader Chuck Costa (far left), Deputy Program Leader Rick Higgs (middle left), Deputy Program Leader Gordon MacLeod (far right), and Joint NTS Program Leader Bob Braddy (middle right).

Weapons Program and Operations office, the document sets forth the terms of the agreement. More important than the words on the page, however, is the excitement among those involved in making it happen.

LANL's Chuck Costa, deputy program leader for Experiment Program and Project Execution, points to JNPO's desired paradigm. "The organizational structure, including work teams, will be mixtures of the right people from both labs. B Program (LLNL) and X Division (LANL) will be working together, and all work from both labs at NTS will flow through JNPO. Each lab's home organizations will be strongly involved, and we get stronger relationships not only with the home labs, but also with NSO, NNSA, and the M&O contractor."

Says LLNL's Rick Higgs, deputy program leader for Site Operations and Infrastructure Support: "NTS is the focal point of LLNL/LANL dynamic plutonium experiments. Combining our implementation efforts in the field, including nuclear facility operations and experiment execution, means higher productivity, better quality, and better performance."

Partial implementation of the JNPO model has already begun, continuing until October 2006, the beginning of Phase 1 full implementation. Phase 2, not fully defined, occurs after the LLNL contract bid.

"We have challenges ahead," offers Gordon MacLeod, deputy program leader responsible for overall program management. "However, the organization is coming together amazingly well. A key, near-term challenge will be funding personnel from one lab working on the other's activity, so we can truly integrate. We're confident we can overcome these challenges and focus on success."

There are many bright spots upon which to focus, as listed by Braddy. "First of all, we've done this before, both with facilities and experiments. The NTS track record is excellent, and we have senior Lab support, plus NSO and NSTec support. This is a part of the Laboratories Response to Complex Integration and NNSA NA-10's 2030 vision of the U.S. nuclear weapons complex. Most importantly, we know this will both support existing and lead to new mission capabilities. We are creating a responsive organization for future work at NTS."

For more information about JNPO, contact Rick Higgs at higgs3@llnl.gov or 702-295-4080.



'Got Science?'

"Got Science? Discover Science Saturday" captured the interest of countless local families last weekend. Now in its third year, the Lab's popular community event welcomed 3,000 visitors who packed the Robert Livermore Community Center for hands-on science and engineering activities, displays and fun. Approximately 30 exhibits staffed by Lab volunteers were offered, including the exhibit on light, shown. "Got Science is one of the ways the Lab can share science and engineering with children in a fun, family-friendly venue," said Ann Willoughby, Laboratory community and external relations manager.

LAB NEWS

Retiree pens Nevada Test Site history 'Before the Nukes'

By Don Johnston
Newsline staff writer

Writing a "people's history" of the Nevada Test Site before it became the vortex of the nation's nuclear weapons enterprise may seem like an odd endeavor.

But Lab retiree and author Charles Meier discovered that this inhospitable expanse of desert has attracted a host of adventurers and fortune seekers: miners, prospectors, pioneers seeking passage west, painters and even a prolific writer of westerns.

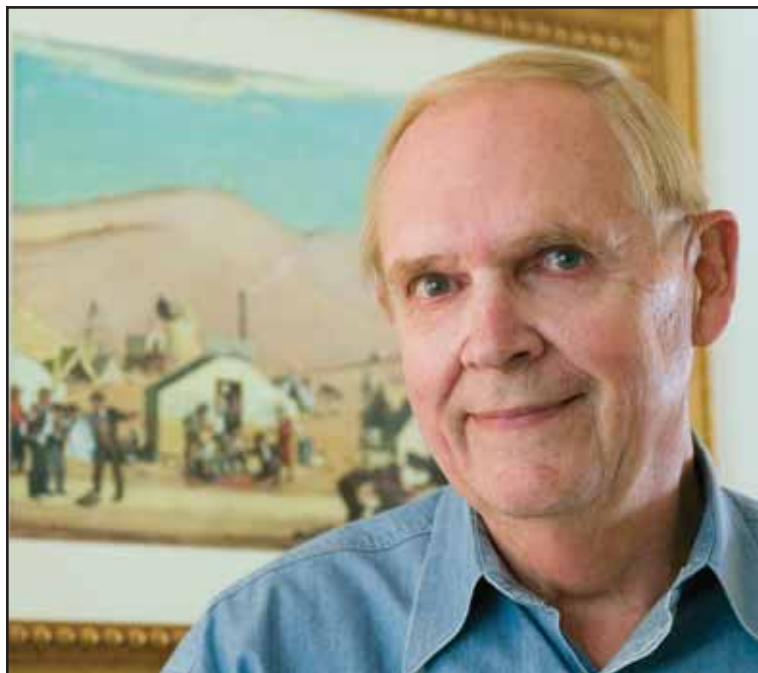
And that's not to mention the native people who inhabited the area for tens of thousands of years before Europeans settled the western reaches of North America.

Meier, a retired Laboratory engineer, relates some of this remarkable, sometimes turbulent, pre-NTS history in his book "Before the Nukes," published in September by his own company, Lansing Publications.

"The history of atomic testing has been well chronicled in books and documents," Meier said. "But the history before the area became the Nevada Test Site is not so well known, especially to the tens of thousands of people who have worked at the site. This is the book I wish I had when I was young and first began working at NTS."

Meier, who was hired in 1959 by what was then Lawrence Radiation Laboratory to work on a nuclear ramjet project at NTS, took an interest in exploring the 1,375 square-mile test site for its archeological and historical treasures. "How much better my experience would have been had my exploration not been made in historical ignorance," he said. "My purpose in writing this historical primer is to enrich the memories of those who have worked at NTS and enlighten those to come."

"Before the Nukes," is by no means a comprehensive pre-history of NTS, but provides historical highlights with plenty of resources for those who might want to delve deeper into the subject. The 92-page history, with many photos and illustrations, is written in conversational, easy



JACQUELINE MCBRIDE/NEWSLINE

Meier will discuss his book in a presentation at noon Tuesday, Oct. 31, in the Bldg. 543 auditorium. Discounted copies of "Before the Nukes: The Remarkable History of the Area of the Nevada Test Site" are available for \$10.95 from the Lab store and its Central Café kiosk.

to read prose. "I wanted the book to be easily accessible to busy readers," Meier said.

The earliest known residents of the NTS area were paleo-Indians, Pleistocene era big game hunters who inhabited parts of Nevada some 11,500 years ago. Meier traces the history of indigenous people from the San Dieguito and Amargosans to the more recent Pueblo and Numa, better known to us as the Paiute and the Shoshone.

Meier provides accounts of some of the colorful pio-

neers and fortune seekers who came through the parts of the Great Basin north of Las Vegas occupied today by the NTS. "My first brushes with history at NTS were visits to the ghost town at Wahmonie and the Hornsilver mine," he recalls. "These were places I explored with friends on weekends while living in the dorms at Mercury."

The ill-fated Death Valley 49ers expedition, which set out from Salt Lake City for the gold fields of California, passed through Frenchman's Flat and the northern reaches of Jackass Flat. Meier includes excerpts from diaries and works published about those expeditions.

Among the colorful characters who lived and explored the NTS area were painter Clyde Forsythe, whose work is displayed on the book's cover, Dr. Margaret Long and western writer B.M. Bower. In the 1940s, Long provided the first comprehensive accounts of motor travel in the NTS area to research the route taken by the Death Valley 49ers.

Bower (1871-1940) lived in Oak Springs at the northern end of the test site during the 1920s. Born Bertha Muzzy, she wrote using her initials "B.M." to disguise her gender because publishers in the day didn't believe a woman writer of western fiction could be a commercial success. She found Oak Springs to be a quiet place to write, though she and her husband also formed a mining company to prospect for copper and silver. Bower wrote 11 novels during her years in Oak Springs.

Meier notes that pursuing literary and prospecting ambitions in such isolation made for an unusual set of life necessities. Bower herself wrote: "My last shopping, for instance, included dynamite, carbon paper, detonating caps, messaline (silk), fuses, the latest magazines, a new typewriter and the innards of an old Ford."

Security changes take place at East Avenue corridor entrances

By Russ Miller
Security Department Head

As employees learned through *NewsOnLine*, beginning Nov. 1, the security posts at the east and west ends of the East Avenue Corridor (EAC) will transfer to the control of Security Police Officers (SPOs) from LLNL's Protective Force Division. This change culminates a year-long study by the National Nuclear Security Administration, LLNL, and Sandia National Laboratory to find cost-effective ways to operate both sites. This change will present challenges for both the SPOs and workers from both labs.

Laboratory SPOs will replace the Sandia security officers who currently cover these perimeter entrances at the Vasco Road and Greenville Road ends of the corridor. For business efficiency reasons and cost savings, NNSA directed this move. This transition will produce changes in security procedures that will affect both LLNL and SNL/CA employees.

The new arrangement will further reduce the hours that the east end or Greenville Road post operates. That post initially will be open during weekday morning and afternoon commute hours only, from 6:30 a.m. to 6 p.m.,

Monday through Friday. These hours may be further reduced based upon additional budget constraints. The Vasco Road post at the west end of the corridor remains open 24/7. However, the three lanes available in the morning will be reduced to two.

These time reductions may produce changes in commute-hour traffic patterns that could result in longer lines and longer waits entering all east and west gates. Drivers at entrance intersections controlled by a traffic light are cautioned not to enter the intersection unless there is room to clear it completely should the light change. The Livermore Police Department will monitor these locations with traffic officers to enforce what's commonly known as "don't block the box."

Similar to the changes in traffic patterns produced by last year's Greenville Road closure, a week or two will be required for commute traffic to normalize, once employees become familiar with and choose among the new gate options.

To speed the process of checking badges, the vouching process will be reinstated. The Q- or L-cleared driver of a vehicle, except buses, may vouch for all the passengers in the vehicle. Those passengers must have the appropriate

badges for entry into the area, and they must hold up their badges so they are visible to the officer at the post. Vouching is not a substitute for the Administrative Escort process. Vouching may not be used to transport an uncleared person into a Limited Area. Uncleared drivers may not vouch for passengers. Vouching occurs at the discretion of the SPO on post, who may — based on circumstances — disallow the vouching option and choose to touch each badge individually.

To implement this program, the Delivery Vehicle Inspection Station, or DVIS, will be reduced to operating only one lane or inspection bay.

On Nov. 1, the "cognizant" federal authority for the EAC will be the Livermore Site Office, thus there will be a change in those controlled items formerly allowed to pass through the EAC entrance and remain locked inside vehicles in the Sandia parking lots. Specifically, alcoholic beverages and firearms will be prohibited beyond the East Avenue security posts, just as they are at the LLNL entry posts.

I ask all employees to be cognizant of these changes, cooperative in complying, and patient in accommodating any inconveniences that may ensue.

SCIENCE NEWS

Element team looks for 'magic number'

By Anne M. Stark
Newsline staff writer

It could be dubbed voyage to the bottom of the periodic table of elements.

That's the journey that the Heavy Element Group in the Chemistry, Materials and Life Sciences Directorate is on. And they recently came one step closer as they joined with Russian scientists to discover the newest superheavy element, element 118.

LLNL scientists collaborated once again with researchers from the Joint Institute for Nuclear Research in Russia (JINR) to bring the total to five new elements for the Livermore-Dubna team (113, 114, 115, 116 and 118).

In experiments conducted at the JINR U400 cyclotron in 2002 and again between February and June 2005, the researchers observed atomic decay patterns, or chains, that establish the existence of element 118. In these decay chains, previously observed element 116 is produced via the alpha decay of element 118.

The results are published in the October 2006 edition of the journal, *Physical Review C*. The paper appears online at <http://link.aps.org/abstract/PRC/v74/e044602>.

The experiments produced three atoms of element 118 when calcium ions bombarded a californium target. The team then observed the alpha decay from element 118 to element 116 and then to element 114. The Livermore-Dubna team had created the same isotope of element 116 in earlier experiments.

"The decay properties of all the isotopes that we have made so far paint the picture of a large, sort of flat Island of Stability and indicate that we may have luck if we try to go even heavier," said Ken Moody, a team member who has worked in the heavy element field for 29 years.

The Island of Stability is a term from nuclear physics that describes the possibility of elements, which have particularly stable "magic numbers" of protons and neutrons. This would allow certain isotopes of some transuranic elements (elements with atomic numbers greater than 92) to be far more stable than others, and thus decay much more slowly.

Livermore researchers say that if they can achieve an element with at least 184 neutrons, they may just reach the island.

"We don't have enough neutrons to get in the center of the Island of Stability," Moody said. "We're just on the edge. We're nibbling away at the shores of the Island of Stability but our feet are still wet."

Element 118 is expected to be a noble gas that lies right below radon on the periodic table of elements.

"The world is made up of about 90 elements," Moody said. "Anything more you can learn about the periodic table is exciting. It can tell us why the world is here and what it is made of."

Members of the Livermore team include: Moody, Dawn Shaughnessy, Mark Stoyer, Nancy Stoyer, Philip Wilk,

Jacqueline Kenneally, Jerry Landrum, John Wild, Ron Loughheed and former LLNL employee Joshua Patin.

"This is quite a breakthrough for science," said Chemistry, Materials and Life Sciences Associate Director Tomas Diaz de la Rubia. "We've discovered a new element that provides insight into the makeup of the universe. For our scientists to find another piece of the puzzle is a testament to the strength and value of the science and technology at this Laboratory."

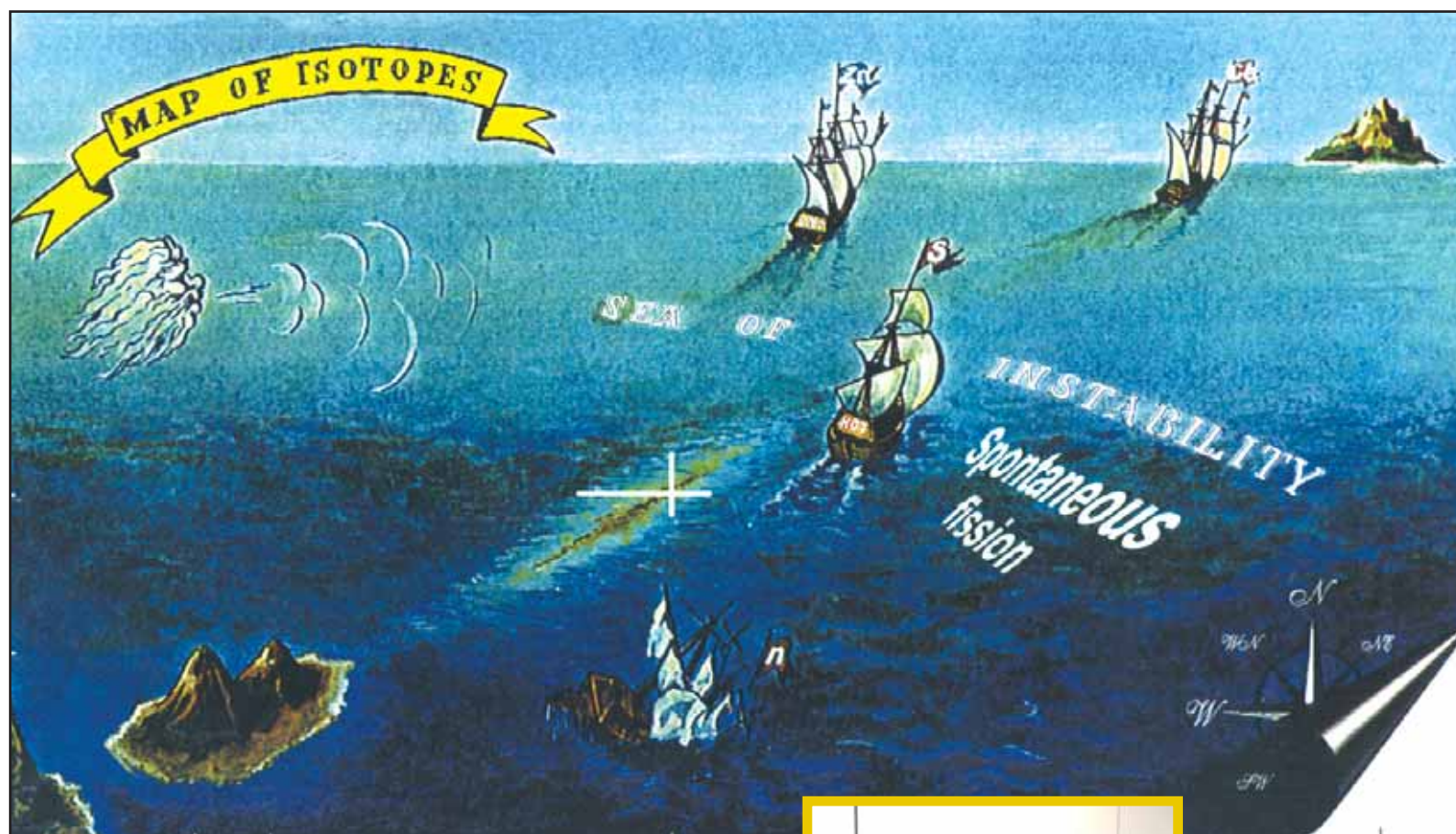
Livermore has had a long-standing heavy element group since the inception of the Laboratory in 1952. The group has been successful in the discovery of several new elements over the years because it has access to unique materials to perform the experiments. In 1999 and 2001, the Laboratory announced the discovery of elements 114 and 116, respectively. In 2004, the Livermore-Dubna team observed the existence of elements 113 and 115.

As for the future, the LLNL-Dubna team will continue to map the region near the Island of Stability. In 2007, the team plans to look for element 120 by bombarding a plutonium target with iron isotopes.

"The heavy element community will continue to search for new elements until the limit of nuclear stability is found," Mark Stoyer said. "It is expected that limit will be found."

And as for whether the team truly found element 118, one has only to turn to Nancy Stoyer.

"We're very confident," she said. "I think of this like any other journey to a new place. Why do you want to go to the moon? Why do you want to go to the top of Mount Everest? Finding it is something new, something interesting."

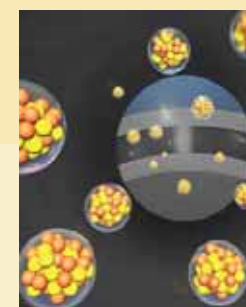


SABRINA FLETCHER AND THOMAS TEGGE

Top: The Island of Stability is a term from nuclear physics that describes the possibility of elements, which have particularly stable "magic numbers" of protons and neutrons. This would allow certain isotopes of some transuranic elements (elements with atomic numbers greater than 92) to be far

more stable than others, and thus decay much more slowly.

Inset: A particle begins to decay and eventually fissions.



ON THE COVER: ARTIST'S CONCEPTION OF CALCIUM IONS TRAVELING DOWN THE ACCELERATOR AT A HIGH VELOCITY TOWARD THE ROTATING CALIFORNIUM TARGET.
ART BY SABRINA FLETCHER AND THOMAS TEGGE

SCIENCE NEWS

B Division's James Wilson earns Hans Bethe Award

By David Schwoegler
Newsline staff writer

In 1953 James Wilson began work as a physicist at Livermore. Fifty-three years later in B-Division, Wilson is as deeply embroiled in his research as ever — despite an official retirement that he says occurred “...either in 1987 or 1988.”

While much of his work has focused on primary design within the classified community, he has made substantial contributions to unclassified research in both aerophysics and astrophysics.

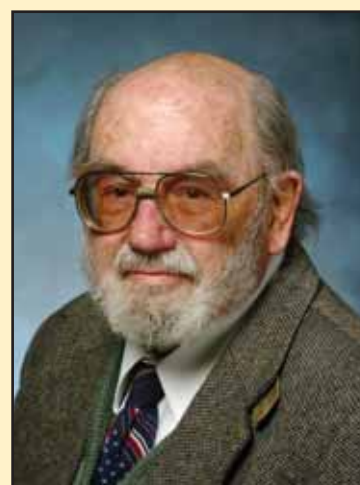
Performing his high-speed computations on the Lab's California Digital Linux Cluster machine known as Thunder, Wilson is best known publicly for his supernova calculations, proposing how one works and why it explodes.

He openly admits that his most controversial work covered neutron-star binaries. At last count, he says, “Fifteen papers have been written saying that I'm wrong.”

When notification of his Hans Bethe award arrived by U.S. Mail, Wilson first shared the exciting news with his co-workers. His initial reaction, “I felt pleased that somebody else likes my work. I operate independently, and always have.”

According to the American Physical Society, their Hans Bethe award recognizes outstanding work in theory, experiment or observation. This is one of the highest honors a physicist can receive, symbolizing both peer admiration and recognition of exceptional accomplishments by colleagues.

This APS award is presented annually to one individual for outstanding accomplishments in astrophysics, nuclear physics, nuclear astrophysics, or



James Wilson

closely related fields. The competition is open to any scientist working in these areas worldwide. The accompanying prize consists of \$7,500 and a certificate citing the contributions made by the recipient.

A committee of experts selects the recipient, and submits its recommendation to the APS Executive Board for final approval. Arthur Champagne of the University of North Carolina, chaired the 2006 Hans A. Bethe Prize Selection Committee, which included Stanford Woosley, the 2005 winner.

The award commemorates Hans Bethe, a German-American physicist whose career spanned 60 years. He worked in the 1940s on the Manhattan Project. Then in the early 1950s he contributed to the development of the two-stage device. He later won the Nobel Prize in Physics in 1967.

Lactic acid genome study ferments new food applications

By David Gilbert
Newsline staff writer

With public concern at a fevered pitch over the bacterial contamination of spinach, it is easy to lose track of how bland and deprived our world would be without the contribution to our food supply of such benign microbial players as lactic acid-producing bacteria.

Researchers from the U.S. Department of Energy Joint Genome Institute (DOE JGI) and the University of California, Davis, and their colleagues have characterized the genome sequences of nine different lactic acid-producing bacteria, or LAB, and have published their findings in the October 17 edition of the *Proceedings of the National Academy of Sciences* (<http://www.pnas.org/cgi/content/abstract/0607117103v1>). The small LAB genomes encode a diverse repertoire of genes for efficient carbon and nitrogen acquisition from the nutritionally rich environments they inhabit and reflect a limited range of biosynthetic capabilities promising broad industrial applications.

Lactic acid-producing bacteria play a key role in the production of fermented foods and beverages, accounting for tens of billions of dollars in sales annually. Products constituting a fine repast, such as wine, salami, cheese, sourdough bread, pickles, yogurt, cocoa, and coffee are all enhanced by LAB, which ferment six-carbon sugars, or hexoses, to produce lactic acid.

“DOE JGI's contribution to the whole study of lactic acid bacteria is simply immense,” said David Mills, associate professor, Viticulture & Enology, University of California, Davis, and senior author on the study. “Access to the genome sequences for these



Researchers have characterized the genome sequences of nine different lactic acid-producing bacteria, which play a key role in the production of fermented foods and beverages.

fermentative microorganisms will dramatically increase our understanding of their role in industrial food production, leading to more optimized production schemes.

For example, a better understanding of the role of lactic acid bacteria in cheese ripening will result in production strategies that reduce ripening time and thereby save energy. Moreover, lactic acid bacteria are used for production of various commercial bio-

products such as dextran and antimicrobials. The availability of these genome sequences will foster development of additional production schemes for biofuels and other important chemicals.”

The publication is the culmination of a multi-year effort by the Lactic Acid Bacteria Genome Consortium, a group of at least a dozen academic organizations formed in 2001. Paul Richardson, DOE JGI Genomic Technologies Program head, said that the functional classification embraced a variety of industrially important genera, including *Lactococcus*, *Enterococcus*, *Oenococcus*, *Pediococcus*, *Streptococcus*, *Leuconostoc*, and *Lactobacillus* species. “The sequence of these diverse species offered a window into the sugar metabolism and energy conversion systems of LAB, and the evolution of these systems, which helped identify key enzymes involved in the production of end products including acetic acid, lactic acid, ethanol, and CO₂.”

“This work represents a hallmark in the genomic and bioinformatic characterization of lactic acid bacteria that have an impact on food, health, and agriculture,” said Willem M. de Vos, professor of Microbiology and program director of the Wageningen Center for Food Sciences in Holland. “In a heroic effort, their publication more than doubles the number of lactic acid bacterial genomes that are publicly available and provides the research community with a wealth of high-quality data that can be used to understand and improve starter cultures for dairy, meat, and wine fermentations; probiotic cultures; and other industrial applications. The extensive bioinformatic analyses by world experts adds to the impact of the genomic data and provides new hypotheses on how microbial genomes evolve by mechanisms of genomic loss and horizontal gene isitions.”

It's a HOME run



JACQUELINE MCBRIDE/NEWSLINE

This year's Run for HOME was sponsored by the National Ignition Facility, with the theme, "Builders Are Us." More than 1,200 participants — runners, walkers and costumed groups or "centipedes" — headed for HOME on Wednesday afternoon, kicking off the Lab's annual HOME Campaign.

Top, clockwise: Runners take off at the starting line. Race winners included top runners Trevor Wiley (1st place Open Male Runner) who clocked in at 9:04 minutes and Beth Vitalis, 1st place Open Female Runner whose time was 10:19 seconds. The largest centipede award went to the pink and proud CAMS Flamingos. Livermore's Christensen Middle School choir entertained the crowd before the race. The dress code for the day included hard-hats and hammers, as displayed by NIF physicist Dan Kalantar and Mary Dyer who won for Crazy Construction Worker. Germaine Clark (left) of Chemistry, Materials and Life Sciences Directorate and Carol Beddom, executive director of Livermore's Open Heart Kitchen, pack up the food donations from Lab employees. It is estimated that the amount of food collected — through directorate collections and at the Run for HOME — could feed Tri-Valley families in need for approximately two weeks. Erna Grasz (left) talks with Colleen Camacho and Christine Ynzunza about the Asante Africa Foundation.



in MEMORIAM

Joan Feeney

Joan Feeney, a longtime Lab employee who was instrumental in starting the Lawrence Livermore Laboratory Women's Association (LLLWA) died Aug. 29 in Vancouver, Wash. She was 83.

Born Nov. 29, 1923, in San Diego, Feeney was an administrative assistant who worked in the Chemistry and Materials Science Directorate. During her Lab career, she also assisted several key managers including the late Laboratory Director Roger Batzel, former Associate Director Gus Dorough, and many department heads of Chemistry and Materials Science.

She retired from the Lab in 1981.

Feeney will be remembered as co-founder and president of the LLLWA. In February 1971, she and fellow employees Jane Mathis and Anita Riley approached then LLNL Director Michael May with a proposal for creating a Lab women employee's group to promote education and discussion. May supported the idea stating: "I welcome your interest." With those words, the LLLWA was launched.

Contributions in Feeney's name may be made to the Fort Vancouver Alzheimer's Care Center, 8401 NE 8th Way, Vancouver, WA 98664.

Frank V. Harshbarger Jr.

Frank V. "Vic" Harshbarger, died Oct. 5 at his home in Livermore. He was 82.

Born Nov. 1, 1923, he was raised in Topeka, Kan. and attended Topeka Public Schools, Washburn University and graduated from Kansas State University. He attended graduate school at the University of Pittsburgh.

Harshbarger worked at the Laboratory where he designed instrumentation and control systems for material testing and for research into thermonuclear fusion for electrical power generation. He was retired from the Bay Area Rapid Transit District where he was a senior engineer engaged in the design of automatic train control systems. He also had been employed in the engineering department of the Union Switch and Signal Co. in Pittsburgh, Pa. and Chicago.

He served as a sergeant and com-

munications chief in the U.S. Army Signal Corps during World War II. Harshbarger was a member of Central Congregational Church in Topeka, the Institute of Electrical and Electronic Engineers, the Association of American Railroads, the American Theater Organ Society and the Sacramento Traditional Jazz Society.

He is preceded in death by his wife, Mary Lois Collins. He is survived by four daughters, Sharon Harshbarger of Manteca, Mary Patricia Peters of Sacramento, Linda Ann Wolf of San Jose and Diane Powell of Livermore; two sons, Frank V. III of Livermore and Raymond of Sacramento; 10 grandchildren; seven great-grandchildren; and a sister, Marjorie Latas of Wichita, Kan.

Memorial services were held in Livermore. Donations may be made to a charity of choice in Harshbarger's name.

PEOPLE NEWS

William J. Hogan

William J. Hogan, a pioneer and leader in the field of inertial fusion energy, died Oct. 19. He was 66.

Hogan had a distinguished 37-year career at the Laboratory where he led the development of the concept of inertial fusion for energy applications (IFE) and led several of the seminal system studies which showed that laser inertial fusion could be an attractive source of energy.

Hogan received a bachelor's degree with honors in physics from the California Institute of Technology in 1962 and earned a Ph.D. in elementary particle physics in 1966 from Princeton University. He joined LLNL in 1966, working on a number of energy and defense programs. In 1983, he was named the leader of the Inertial Confinement Fusion (ICF) Applications program, and in 1986 a deputy ICF program leader.

Hogan was a pioneer in analyzing the applications of inertial fusion.

He spent a year in Moscow, Russia in 1992-93 as a senior project coordinator for the International Science and Technology Center, helping Russian weapons scientists transition to non-weapons careers. Returning to LLNL, he joined the National Ignition Facility (NIF) team and rose to the position of assistant associate director for NIF Programs in 1999. He retired from LLNL in 2001 but continued to consult for the Lab and other fusion laboratories.

Hogan played a prominent role in publishing and disseminating information about inertial fusion energy and in organ-

izing many fusion conferences. He served as scientific editor of the International Atomic Energy Agency (IAEA) book, "Energy from Inertial Fusion," published in 1995. He was the technical editor of a special issue of the American Nuclear Society journal "Fusion Science and Technology," on Fast Ignition Inertial Fusion, published in 2006 as well as other related publications. He was the founding organizing chair of the series of international conferences on Inertial Fusion Sciences and Applications (IFSA), which has become the leading international conference in the field.

Hogan contributed generously with his time for fusion organizations. He was a member of the American Physical Society, the American Nuclear Society, the American Association for the Advancement of Science, Sigma Xi and Fusion Power Associates.

He served on the editorial board of Fusion Science and Technology and as the associate editor of the IAEA journal, *Nuclear Fusion*. He served as chairman of the International Atomic Energy Agency Advisory Group on Inertial Fusion Energy from 1991-1996. He was awarded the outstanding achievement award of the Fusion Energy Division of the American Nuclear Society in 1996.

Hogan is survived by his wife Sharon of Nevada City. Donations in his name may be made to: Hospice of the Foothills, 12399 Nevada City Highway, Grass Valley, Calif., 95945, or, if you prefer, a charity of your choice.

James F. Morgan

James F. Morgan died at his home in Brentwood, Oct. 24.

Morgan retired from LLNL in 2005, after 28 years of service. He was an assistant professor at Ohio State University for seven years; a graduate fellow at Cal Tech for two years; received his Ph.D. from the University of Minnesota in 1968 and earned his bachelor's degree from St. Mary's in Winona, Minn.

Morgan joined the Lab in 1977. He spent 17 years in the test program, 12 years as group leader for Neutron Measurements. In 1994, he represented the Department of Energy in Geneva at the Joint Compliance and Inspection Commission while the radiation detection protocol to the START-I Treaty was being negotiated. He spent 1994 to 1996 in Washington at the DOE Office of Arms Control and Nonproliferation and returned to

NAI/P Division as the group leader for Radiation Technology until 2001. He has represented the U.S. government and DOE at negotiations on plutonium production reactor shutdown transparency, mayak transparency, and the warhead safety and security agreement.

He is survived by his wife Marlena; sons Michael and Paul; daughters Mara and Sarah; in-laws Anjanette, Craig and Jon; and grandchildren Kevin and Kayla.

Morgan's loves were his family, interacting with Russian scientists, food and wine, swimming, hiking and traveling.

Celebration and memorial services for Morgan will be at 1:30 p.m. on Monday, Oct. 30, at the Immaculate Heart of Mary Church, 500 Fairview Ave., Brentwood. Donations to the Leukemia and Lymphoma Society are appreciated.

NEWSLINE

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NIF opens its doors to families and a promising future



Photos by Jacqueline McBride, Newsline



The National Ignition Facility's "Family Open House" on Saturday, Oct. 14, attracted more than 1,325 attendees, who toured the facility, watched educational videos, learned about clean rooms and safety programs, and received mementos of their visit.

The event capped several months of successful achievements as the massive laser project enters its final years of commissioning and prepares for full time operation.

NIF Associate Director Edward Moses, at a recent directorate all-hands meeting, stated, "Our goal is to turn NIF into the premier international center for high energy density experimental science, and we are well on the way."

The project is now 88 percent complete and more than 45 percent of the modules containing optics and mechanical equipment have been installed. Of NIF's total 192 beams, 24 have now been operationally qualified, with more coming online at a rate of about eight each month. NIF has already reached a capability exceeding 450 kiloJoules, the highest energy ever achieved by any laser of its kind.

The prestigious Department of Energy report by a panel of scientific experts known as the Lehman Review scrutinized NIF and the National Ignition Campaign in July. In its summary, which was overwhelmingly positive, the group wrote, "The project staff is a strong, professional team with demonstrated commitment to the objectives of the project and experimental campaign — the effort is being managed appropriately to achieve the objectives of both."

Personal safety and health continues to be a major focus for NIF. Last month, the directorate programs received recognition from the National Safety Council for achieving 1,330,374 work hours over 12 consecutive months without a lost work day due to injury.

Clockwise from top left: John Post explains laser glass to guests. Mary Spaeth gives an up-close lesson on NIF final optics to her grandsons, Joshua, left, and Nathan, right, and daughter Kristen Frazier, center. Steve Weber and guest look at the giant KDP crystal. Chris Ebberts demonstrates principles of laser light to visitors.



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